

## CLAIMS

What is claimed is:

- 1 1. A method for mapping input listings to consolidated listings, the method  
2 comprising the computer-implemented steps of:  
3 establishing a group of input listings from a plurality of input listings by grouping  
4 input listings that have in common one or more attribute values;  
5 determining, for the group of input listings, a corresponding consolidated listing  
6 based on attribute values associated with the input listings in said group  
7 and attribute values associated with consolidated listings; and  
8 mapping each input listing in the group of input listings to the consolidated  
9 listing.
- 1 2. The method of Claim 1 further comprising the steps of:  
2 mapping individual input listings from said plurality of input listings to  
3 consolidated listings based on a comparison between attribute values of  
4 the individual input listings and attribute values associated with said  
5 consolidated listings;  
6 wherein the step of determining a corresponding consolidated listing for the group  
7 of input listings includes:  
8 determining whether any individual input listings in the group have been  
9 mapped to consolidated listings;  
10 if one or more individual input listings in the group have been mapped to  
11 consolidated listings, and all of the one or more individual input

12 listings are mapped to the same particular consolidated listing, then  
13 determining that said particular consolidated listing is the  
14 corresponding consolidated listing for said group.

1 3. The method of Claim 2 wherein:  
2 the method further includes the step of determining normalized forms of one or  
3 more attributes of the individual input listings; and  
4 the comparison between attribute values of the individual input listings and  
5 attribute values associated with said consolidated listings is performed by  
6 comparing the normalized forms of the one or more attributes of the  
7 individual input listings and attribute values associated with said  
8 consolidated listings.

1 4. The method of Claim 1, further comprises the steps of:  
2 receiving search criteria;  
3 in response to receiving the search criteria, determining one or more consolidated  
4 listings that match the search criteria;  
5 presenting the one or more consolidated listings as a search result corresponding  
6 to the search criteria; and  
7 receiving a selection request that selects a consolidated listing;  
8 in response to the selection request, presenting all input listings that are mapped to  
9 a selected consolidated listing that is selected by the selection request.

1 5. The method as recited in Claim 1, wherein the group of input listings has at least  
2 one input listing that has not, prior to establishing the group, been mapped to the  
3 corresponding consolidated listing.

1 6. The method of Claim 1, wherein establishing a group of input listings further  
2 comprises the step of: in the plurality of input listings, mapping all variant  
3 attribute values that represent the same information to a corresponding normalized  
4 form.

1 7. The method of Claim 1, wherein attribute values associated with the plurality of  
2 input listings include one or more of:  
3 a name value;  
4 a Product Code value;  
5 a model value;  
6 a title value;  
7 an author value;  
8 a brand value; and  
9 a Universal Product Code (UPC) value.

1 8. The method of Claim 1, wherein determining for the group of input listings a  
2 consolidated listing further comprises the steps of:  
3 determining whether there is any input listing in the group of input listings that is  
4 mapped to any consolidated listing;

5 if there are no input listings in the group of input listings that are mapped to any  
6 consolidated listing, then creating a new consolidated listing and mapping  
7 the input listings in the group of input listings to the new consolidated  
8 listing.

1 9. The method of Claim 8, wherein creating a new consolidated listing further  
2 comprises the steps of:  
3 assigning a source weight to each source from which any of the plurality of input  
4 listings is obtained;  
5 calculating the sum of the source weights for the group; and  
6 if the sum of the source weights is greater than a pre-selected numeric threshold,  
7 then selecting an item listing from one of the sources in the group as the  
8 new consolidated listing.

1 10. The method of Claim 8 wherein, if there are input listings in the group that map to  
2 different consolidated listings, then setting aside the input listings in the group for  
3 a deferred analysis.

1 11. The method as recited in Claim 10, wherein the deferred analysis includes using a  
2 manual tool to determine the corresponding consolidated listing for each input  
3 listing that has been set aside for deferred analysis.

1 12. The method of Claim 1, wherein the step of determining, for the group input  
2 listings, a corresponding consolidated listing comprises the steps of:

3 step A: performing a correlation check between input listings of the group of input  
4 listings;  
5 step B: if all the input listings in the group of input listings pass the correlation  
6 check then determining whether there is more than one consolidated listing  
7 that was previously selected for establishing the group of input listings and  
8 for having at least one attribute value that is a member of a set of attribute  
9 values wherein the set of attribute values includes a model value of a  
10 selected input listing and a name value of the selected input listing,  
11 wherein the selected input listing is selected from the plurality of input  
12 listing and that is not mapped to any consolidated listing;  
13 step C: if it determined from step B that there is only one consolidated listing,  
14 then mapping all the input listings of the group of input listings to the one  
15 consolidated listing;  
16 step D: if it determined from step B that there are more than one consolidated  
17 listing, then merging the more than one consolidated listing into a merged  
18 consolidated listing and mapping all the input listings of the group of input  
19 listings to the merged consolidated listing;  
20 step E: if it determined from step B that there is no consolidated listing, then  
21 creating a new consolidated listing and mapping all the input listings of the  
22 group of input listings to the new consolidated listing; and  
23 step F: if not all the input listings in the group of input listings pass the correlation  
24 check, then setting aside the input listings in the group of input listings for  
25 a deferred analysis.

1 13. The method as recited in Claim 12, wherein a deferred analysis includes using a  
2 manual tool to determine the corresponding consolidated listing for each input  
3 listing that has been set aside for deferred analysis.

1 14. The method of Claim 6, wherein establishing a group of input listings further  
2 comprises the steps of:  
3 for each input listing that is not mapped to any consolidated listing and that has a  
4 Product Code value, determining the corresponding consolidated listing  
5 that has the Product Code value in common with the input listing that is  
6 not mapped;  
7 for each input listing that is not mapped to any consolidated listing and for which  
8 there is the corresponding consolidated listing that has in common the  
9 Product Code value with the input listing that is not mapped, determining  
10 whether the input listing that is not mapped and the corresponding  
11 consolidated listing have in common a brand value;  
12 for each input listing that is not mapped to any consolidated listing and for which  
13 there is the corresponding consolidated listing that has the Product Code  
14 value and the brand value in common with the input listing that is not  
15 mapped, mapping the input listing that is not mapped to the corresponding  
16 consolidated listing; and  
17 grouping all input listings that have in common the Product Code value.

1 15. The method of Claim 6, wherein establishing a group of input listings further  
2 comprises the steps of:  
3 for each input listing that is not mapped to any consolidated listing and that has a  
4 name value, determining the corresponding consolidated listing that has  
5 the name value in common with the input listing that is not mapped;  
6 for each input listing that is not mapped to any consolidated listing and for which  
7 there is the corresponding consolidated listing that has in common the  
8 name value with the input listing that is not mapped, determining whether  
9 the input listing that is not mapped and the corresponding consolidated  
10 listing have in common a brand value;  
11 for each input listing that is not mapped to any consolidated listing and for which  
12 there is the corresponding consolidated listing that has the name value and  
13 the brand value in common with the input listing that is not mapped,  
14 mapping the input listing that is not mapped to the corresponding  
15 consolidated listing; and  
16 grouping all input listings that have in common the name value.

1 16. The method of Claim 6, wherein establishing a group of input listings further  
2 comprises the steps of:  
3 for each input listing that is not mapped to any consolidated listing and that has a  
4 title value, determining the corresponding consolidated listing that has the  
5 title value in common with the input listing that is not mapped;

6 for each input listing that is not mapped to any consolidated listing and for which  
 7 there is the corresponding consolidated listing that has in common the title  
 8 value with the input listing that is not mapped, determining whether the  
 9 input listing that is not mapped and the corresponding consolidated listing  
 10 have in common an author value;

11 for each input listing that is not mapped to any consolidated listing and for which  
 12 there is the corresponding consolidated listing that has the title value and  
 13 the author value in common with the input listing that is not mapped,  
 14 mapping the input listing that is not mapped to the corresponding  
 15 consolidated listing; and  
 16 grouping all input listings that have in common the title value.

1 17. The method of Claim 6, wherein establishing a group of input listings further  
 2 comprises the steps of:  
 3 step A: selecting from the plurality of input listings one input listing that is not  
 4 mapped to be a selected input listing;  
 5 step B: determining whether there are any input listings other than the selected  
 6 input listing that was selected in step A from the plurality of input listings  
 7 that have not been mapped to any consolidated listing and that have at  
 8 least one attribute value that is a member of a set of attribute values that  
 9 includes a model value and a name value of the selected input listing that  
 10 was selected at step A;



11 step C: selecting from the plurality of input listings all input listings that have not  
12 been mapped to any consolidated listing and that have at least one attribute  
13 value that is the member of the set of attribute values that includes the  
14 model value and the name value of the selected input listing that was  
15 selected at step A; and  
16 step D: grouping the input listings that are selected at step C with the selected  
17 input listing.  
18 step E: selecting all consolidated listings that have at least one attribute value that  
19 is a member of a set of attribute values wherein the set of attribute values  
20 includes a model value of the selected input listing and a name value of the  
21 selected input listing;  
22 step F: selecting the input listings that are mapped to the consolidated listings that  
23 are selected in step E; and  
24 step G: establishing the group by grouping the input listings that are selected at  
25 step F with the input listings in step D.

1 18. The method of Claim 17, further comprising the steps of:  
2 if there are no input listings other than the selected input listing from the plurality  
3 of input listings that have not been mapped to any consolidated listing and  
4 that have at least one attribute value that is the member of the set of  
5 attribute values that includes the model and the name value of the selected  
6 input listing that was selected at step A of Claim 17, then designating the

7                   selected input listing that was selected at step A as a singleton input  
8                   listing;  
9                   performing a correlation test between the singleton input listing and all input  
10                  listings that have not been mapped to any consolidated listing and that  
11                  have a category attribute value in common with the singleton input listing;  
12                  and  
13                  if the singleton input listing fails the correlation test then setting aside the  
14                  singleton input listing in the group for a deferred analysis.

1   19.   The method as recited in Claim 18, wherein a deferred analysis includes using a  
2           manual tool to determine the corresponding consolidated listing for each input  
3           listing that has been set aside for deferred analysis.

1   20.   The method of Claim 12, wherein performing a correlation test between input  
2           listings of the group of input listings further comprises performing one or more of  
3           the following:  
4           performing a name correlation test;  
5           performing a numbers\_in\_the\_name correlation test;  
6           performing a price correlation test;  
7           performing a category correlation test;  
8           performing a brand correlation test; and  
9           performing a model correlation test.

1 21. The method of Claim 20, wherein performing a correlation test between input  
2 listings of the group of input listings further comprises performing the steps of:  
3 determining a worst name correlation value in the group of input listings for the  
4 name correlation test;  
5 determining a worst numbers\_in\_the\_name correlation value in the group of input  
6 listings for the numbers\_in\_the\_name correlation test;  
7 determining a worst price correlation value in the group of input listings for the  
8 price correlation test;  
9 determining a worst category correlation value in the group of input listings for  
10 performing the category correlation test; and  
11 determining a listing-match-friction value for the group of input listings by taking  
12 a sum of the worst name correlation value, the worst  
13 numbers\_in\_the\_name correlation value, the worst price correlation value  
14 and the worst category correlation value.

1 22. The method of Claim 20, wherein performing a name correlation test between  
2 input listings of the group of input listings comprises the steps of:  
3 pairing input listings from the group of input listings such that each input listing is  
4 paired with every other input listing in the group to form pairs of input  
5 listings;  
6 for each pair of input listings, performing the steps of:  
7 splitting the name value for each input listing in the pair of input listing  
8 into components, wherein each atom contains one alpha-numeric  
9 word;

10 selecting components that do not contain any numerals for each input  
11 listing in the pair to be one or more selected components;  
12 assigning a name correlation score based on how many of the one or more  
13 selected components are in common between the input listings in  
14 the pair;  
15 if the name correlation score is greater than a pre-selected threshold name  
16 correlation score value then passing the pair of input listings;  
17 if the name correlation score is less than the pre-selected threshold name  
18 correlation score value then failing the pair of input listings;  
19 if all the pairs of input listings have passed the name correlation test, then passing  
20 the group of input listings with respect to the name correlation test.

1 23. The method of Claim 20, wherein performing a numbers\_in\_the\_name correlation  
2 test between input listings of the group of input listings comprises the steps of:  
3 pairing input listings from the group of input listings such that each input listing is  
4 paired with every other input listing in the group to form pairs of input  
5 listings;  
6 for each pair of input listings, performing the steps of:  
7 splitting the name value for each input listing in the pair of input listings  
8 into components, wherein each atom contains one alpha-numeric  
9 word;

10 selecting components that contain one or more numerals for each input  
11 listing in the pair of input listings to be one or more selected  
12 components;  
13 assigning a numbers\_in\_the\_name correlation score based on how many of  
14 the one or more selected components are in common between the  
15 input listings in the pair of input listings;  
16 if the numbers\_in\_the\_name correlation score is greater than a pre-selected  
17 threshold numbers\_in\_the\_name correlation score value then  
18 passing the pair of input listings;  
19 if the numbers\_in\_the\_name correlation score is less than the pre-selected  
20 threshold numbers\_in\_the\_name correlation score value then  
21 failing the pair of input listings;  
22 if all the pairs of input listings have passed test, then passing the group of input  
23 listings with respect to the numbers in the name correlation test.

1 24. The method of Claim 20, wherein performing a category correlation test between  
2 input listings of the group of input listings comprises the steps of:  
3 pairing input listings from the group of input listings such that each input listing is  
4 paired with every other input listing in the group of input listings to form  
5 pairs of input listings;  
6 for each pair of input listings, performing the steps of:  
7 comparing each leaf of a category value in one input listing of the pair of  
8 input listings with a corresponding leaf of the category value in a  
9 remaining input listing in the pair of input listings;

10                    passing the pair of input listings if the corresponding leaves match down to  
11                    a pre-selected leaf-level;  
12                    failing the pair of input listings if the corresponding leaves do not match  
13                    down to the pre-selected leaf-level;  
14                    if all the pairs of input listings have passed, then passing the group of input  
15                    listings with respect to the category correlation test.

1    25.    The method of Claim 20, wherein performing a price correlation test between  
2           input listings of the group of input listings comprises the steps of:  
3           pairing input listings from the group of input listings such that each input listing is  
4           paired with every other input listing in the group of input listings to form  
5           pairs of input listings;  
6           for each pair of input listings, performing the steps of:  
7           comparing a price value in one input listing in the pair of input listings  
8           with a corresponding price value in a remaining input listing in the  
9           pair of input listings;  
10           passing the pair of input listings if the price values match up to a pre-  
11           selected percentage;  
12           failing the pair of input listings if the price values do not match up to the  
13           pre-selected percentage; and  
14           if all the pairs of input listings have passed, then passing the group of input  
15           listings with respect to the price correlation test.

1 26. The method of Claim 20, wherein performing a model correlation test between  
2 input listings of the group of input listings comprises the steps of:  
3 pairing input listings from the group input listings such that each input listing is  
4 paired with every other input listing in the group of input listings to form  
5 pairs of input listings;  
6 for each pair of input listings, performing the steps of:  
7 if each input listing in the pair of input listings has the model value then  
8 comparing the model values in the pair of input listings and  
9 performing the steps of;  
10 passing the pair of input listings if the model values exactly match;  
11 failing the pair of input listings if the model values do not exactly  
12 match;  
13 if one of the input listings in the pair of input listings does not have the  
14 model value then passing the pair of input listings; and  
15 if all the pairs of input listings have passed, then passing the group of input  
16 listings with respect to the model correlation test.

1 27. The method of Claim 20, wherein performing a brand correlation test between  
2 input listings of the group of input listings comprises the steps of:  
3 pairing input listings from the group of input listings such that each input listing is  
4 paired with every other input listing in the group of input listings to form  
5 pairs of input listings;  
6 for each pair of input listings, performing the steps of:

7 if each input listing in the pair has a brand value then comparing the brand  
8 values in the pair of input listings and performing the steps of;  
9 passing the pair of input listings if the brand values exactly match;  
10 failing the pair of input listings if the brand values do not exactly  
11 match;

12 if one of the input listings in the pair of input listings does not have the  
13 brand value then passing the pair of input listings; and  
14 if all the pairs of input listings have passed, then passing the group of input  
15 listings with respect to the brand correlation test.

16 28. A computer-readable medium carrying one or more sequences of instructions for  
17 mapping input listings to consolidated listings, wherein execution of the one or  
18 more sequences of instructions by one or more processors causes the one or more  
19 processors to perform the steps of:  
20 establishing a group of input listings from a plurality of input listings by grouping  
21 input listings that have in common one or more attribute values;  
22 determining, for the group of input listings, a corresponding consolidated listing  
23 based on attribute values associated with the input listings in said group  
24 and attribute values associated with consolidated listings; and  
25 mapping each input listing in the group of input listings to the consolidated  
26 listing.

1 29. The computer-readable medium of Claim 28 further comprising the steps of:



2 mapping individual input listings from said plurality of input listings to  
3 consolidated listings based on a comparison between attribute values of  
4 the individual input listings and attribute values associated with said  
5 consolidated listings;  
6 wherein the step of determining a corresponding consolidated listing for the group  
7 of input listings includes:  
8 determining whether any individual input listings in the group have been  
9 mapped to consolidated listings;  
10 if one or more individual input listings in the group have been mapped to  
11 consolidated listings, and all of the one or more individual input  
12 listings are mapped to the same particular consolidated listing, then  
13 determining that said particular consolidated listing is the  
14 corresponding consolidated listing for said group.

1 30. The computer-readable medium of Claim 29 wherein:  
2 the method further includes the step of determining normalized forms of one or  
3 more attributes of the individual input listings; and  
4 the comparison between attribute values of the individual input listings and  
5 attribute values associated with said consolidated listings is performed by  
6 comparing the normalized forms of the one or more attributes of the  
7 individual input listings and attribute values associated with said  
8 consolidated listings.

1 31. The computer-readable medium of Claim 28, further comprises the steps of:

2 receiving search criteria;  
3 in response to receiving the search criteria, determining one or more consolidated  
4 listings that match the search criteria;  
5 presenting the one or more consolidated listings as a search result corresponding  
6 to the search criteria; and  
7 receiving a selection request that selects a consolidated listing;  
8 in response to the selection request, presenting all input listings that are mapped to  
9 a selected consolidated listing that is selected by the selection request.

1 32. The computer-readable medium as recited in Claim 28, wherein the group of input  
2 listings has at least one input listing that has not, prior to establishing the group,  
3 been mapped to the corresponding consolidated listing.

1 33. The computer-readable medium of Claim 28, wherein establishing a group of  
2 input listings further comprises the step of: in the plurality of input listings,  
3 mapping all variant attribute values that represent the same information to a  
4 corresponding normalized form.

1 34. The computer-readable medium of Claim 28, wherein attribute values associated  
2 with the plurality of input listings include one or more of:  
3 a name value;  
4 a Product Code value;  
5 a model value;  
6 a title value;  
7 an author value;

8 a brand value; and  
9 a Universal Product Code (UPC) value.

1 35. The computer-readable medium of Claim 28, wherein determining for the group  
2 of input listings a consolidated listing further comprises the steps of:  
3 determining whether there is any input listing in the group of input listings that is  
4 mapped to any consolidated listing;  
5 if there are no input listings in the group of input listings that are mapped to any  
6 consolidated listing, then creating a new consolidated listing and mapping  
7 the input listings in the group of input listings to the new consolidated  
8 listing.

1 36. The computer-readable medium of Claim 35, wherein creating a new consolidated  
2 listing further comprises the steps of:  
3 assigning a source weight to each source from which any of the plurality of input  
4 listings is obtained;  
5 calculating the sum of the source weights for the group; and  
6 if the sum of the source weights is greater than a pre-selected numeric threshold,  
7 then selecting an item listing from one of the sources in the group as the  
8 new consolidated listing.

1 37. The computer-readable medium of Claim 35 wherein, if there are input listings in  
2 the group that map to different consolidated listings, then setting aside the input  
3 listings in the group for a deferred analysis.

- 1 38. The computer-readable medium as recited in Claim 37, wherein the deferred  
2 analysis includes using a manual tool to determine the corresponding consolidated  
3 listing for each input listing that has been set aside for deferred analysis.
- 1 39. The computer-readable medium of Claim 28, wherein the step of determining, for  
2 the group input listings, a corresponding consolidated listing comprises the steps  
3 of:  
4 step A: performing a correlation check between input listings of the group of input  
5 listings;  
6 step B: if all the input listings in the group of input listings pass the correlation  
7 check then determining whether there is more than one consolidated listing  
8 that was previously selected for establishing the group of input listings and  
9 for having at least one attribute value that is a member of a set of attribute  
10 values wherein the set of attribute values includes a model value of a  
11 selected input listing and a name value of the selected input listing,  
12 wherein the selected input listing is selected from the plurality of input  
13 listing and that is not mapped to any consolidated listing;  
14 step C: if it determined from step B that there is only one consolidated listing,  
15 then mapping all the input listings of the group of input listings to the one  
16 consolidated listing;  
17 step D: if it determined from step B that there are more than one consolidated  
18 listing, then merging the more than one consolidated listing into a merged

19 consolidated listing and mapping all the input listings of the group of input  
20 listings to the merged consolidated listing;  
21 step E: if it determined from step B that there is no consolidated listing, then  
22 creating a new consolidated listing and mapping all the input listings of the  
23 group of input listings to the new consolidated listing; and  
24 step F: if not all the input listings in the group of input listings pass the correlation  
25 check, then setting aside the input listings in the group of input listings for  
26 a deferred analysis.

1 40. The computer-readable medium as recited in Claim 39, wherein a deferred  
2 analysis includes using a manual tool to determine the corresponding consolidated  
3 listing for each input listing that has been set aside for deferred analysis.

1 41. The computer-readable medium of Claim 33, wherein establishing a group of  
2 input listings further comprises the steps of:  
3 for each input listing that is not mapped to any consolidated listing and that has a  
4 Product Code value, determining the corresponding consolidated listing  
5 that has the Product Code value in common with the input listing that is  
6 not mapped;  
7 for each input listing that is not mapped to any consolidated listing and for which  
8 there is the corresponding consolidated listing that has in common the  
9 Product Code value with the input listing that is not mapped, determining

10 whether the input listing that is not mapped and the corresponding  
11 consolidated listing have in common a brand value;  
12 for each input listing that is not mapped to any consolidated listing and for which  
13 there is the corresponding consolidated listing that has the Product Code  
14 value and the brand value in common with the input listing that is not  
15 mapped, mapping the input listing that is not mapped to the corresponding  
16 consolidated listing; and  
17 grouping all input listings that have in common the Product Code value.

1 42. The computer-readable medium of Claim 33, wherein establishing a group of  
2 input listings further comprises the steps of:  
3 for each input listing that is not mapped to any consolidated listing and that has a  
4 name value, determining the corresponding consolidated listing that has  
5 the name value in common with the input listing that is not mapped;  
6 for each input listing that is not mapped to any consolidated listing and for which  
7 there is the corresponding consolidated listing that has in common the  
8 name value with the input listing that is not mapped, determining whether  
9 the input listing that is not mapped and the corresponding consolidated  
10 listing have in common a brand value;  
11 for each input listing that is not mapped to any consolidated listing and for which  
12 there is the corresponding consolidated listing that has the name value and  
13 the brand value in common with the input listing that is not mapped,

14 mapping the input listing that is not mapped to the corresponding  
15 consolidated listing; and  
16 grouping all input listings that have in common the name value.

1 43. The computer-readable medium of Claim 33, wherein establishing a group of  
2 input listings further comprises the steps of:  
3 for each input listing that is not mapped to any consolidated listing and that has a  
4 title value, determining the corresponding consolidated listing that has the  
5 title value in common with the input listing that is not mapped;  
6 for each input listing that is not mapped to any consolidated listing and for which  
7 there is the corresponding consolidated listing that has in common the title  
8 value with the input listing that is not mapped, determining whether the  
9 input listing that is not mapped and the corresponding consolidated listing  
10 have in common an author value;  
11 for each input listing that is not mapped to any consolidated listing and for which  
12 there is the corresponding consolidated listing that has the title value and  
13 the author value in common with the input listing that is not mapped,  
14 mapping the input listing that is not mapped to the corresponding  
15 consolidated listing; and  
16 grouping all input listings that have in common the title value.

1 44. The computer-readable medium of Claim 33, wherein establishing a group of  
2 input listings further comprises the steps of:

3 step A: selecting from the plurality of input listings one input listing that is not  
4 mapped to be a selected input listing;  
5 step B: determining whether there are any input listings other than the selected  
6 input listing that was selected in step A from the plurality of input listings  
7 that have not been mapped to any consolidated listing and that have at  
8 least one attribute value that is a member of a set of attribute values that  
9 includes a model value and a name value of the selected input listing that  
10 was selected at step A;  
11 step C: selecting from the plurality of input listings all input listings that have not  
12 been mapped to any consolidated listing and that have at least one attribute  
13 value that is the member of the set of attribute values that includes the  
14 model value and the name value of the selected input listing that was  
15 selected at step A; and  
16 step D: grouping the input listings that are selected at step C with the selected  
17 input listing.  
18 step E: selecting all consolidated listings that have at least one attribute value that  
19 is a member of a set of attribute values wherein the set of attribute values  
20 includes a model value of the selected input listing and a name value of the  
21 selected input listing;  
22 step F: selecting the input listings that are mapped to the consolidated listings that  
23 are selected in step E; and  
24 step G: establishing the group by grouping the input listings that are selected at  
25 step F with the input listings in step D.



1 45. The computer-readable medium of Claim 44, further comprising the steps of:  
2 if there are no input listings other than the selected input listing from the plurality  
3 of input listings that have not been mapped to any consolidated listing and  
4 that have at least one attribute value that is the member of the set of  
5 attribute values that includes the model and the name value of the selected  
6 input listing that was selected at step A of Claim 44, then designating the  
7 selected input listing that was selected at step A as a singleton input  
8 listing;  
9 performing a correlation test between the singleton input listing and all input  
10 listings that have not been mapped to any consolidated listing and that  
11 have a category attribute value in common with the singleton input listing;  
12 and  
13 if the singleton input listing fails the correlation test then setting aside the  
14 singleton input listing in the group for a deferred analysis.

1 46. The computer-readable medium as recited in Claim 45, wherein a deferred  
2 analysis includes using a manual tool to determine the corresponding consolidated  
3 listing for each input listing that has been set aside for deferred analysis.

1 47. The computer-readable medium of Claim 39, wherein performing a correlation  
2 test between input listings of the group of input listings further comprises  
3 performing one or more of the following:

4 performing a name correlation test;  
5 performing a numbers\_in\_the\_name correlation test;  
6 performing a price correlation test;  
7 performing a category correlation test;  
8 performing a brand correlation test; and  
9 performing a model correlation test.

1 48. The computer-readable medium of Claim 47, wherein performing a correlation  
2 test between input listings of the group of input listings further comprises  
3 performing the steps of:  
4 determining a worst name correlation value in the group of input listings for the  
5 name correlation test;  
6 determining a worst numbers\_in\_the\_name correlation value in the group of input  
7 listings for the numbers\_in\_the\_name correlation test;  
8 determining a worst price correlation value in the group of input listings for the  
9 price correlation test;  
10 determining a worst category correlation value in the group of input listings for  
11 performing the category correlation test; and  
12 determining a listing-match-friction value for the group of input listings by taking  
13 a sum of the worst name correlation value, the worst  
14 numbers\_in\_the\_name correlation value, the worst price correlation value  
15 and the worst category correlation value.

1 49. The computer-readable medium of Claim 47, wherein performing a name  
2 correlation test between input listings of the group of input listings comprises the  
3 steps of:  
4 pairing input listings from the group of input listings such that each input listing is  
5 paired with every other input listing in the group to form pairs of input  
6 listings;  
7 for each pair of input listings, performing the steps of:  
8 splitting the name value for each input listing in the pair of input listing  
9 into components, wherein each atom contains one alpha-numeric  
10 word;  
11 selecting components that do not contain any numerals for each input  
12 listing in the pair to be one or more selected components;  
13 assigning a name correlation score based on how many of the one or more  
14 selected components are in common between the input listings in  
15 the pair;  
16 if the name correlation score is greater than a pre-selected threshold name  
17 correlation score value then passing the pair of input listings;  
18 if the name correlation score is less than the pre-selected threshold name  
19 correlation score value then failing the pair of input listings;  
20 if all the pairs of input listings have passed the name correlation test, then passing  
21 the group of input listings with respect to the name correlation test.

1 50. The computer-readable medium of Claim 47, wherein performing a  
2 numbers\_in\_the\_name correlation test between input listings of the group of input  
3 listings comprises the steps of:  
4 pairing input listings from the group of input listings such that each input listing is  
5 paired with every other input listing in the group to form pairs of input  
6 listings;  
7 for each pair of input listings, performing the steps of:  
8 splitting the name value for each input listing in the pair of input listings  
9 into components, wherein each atom contains one alpha-numeric  
10 word;  
11 selecting components that contain one or more numerals for each input  
12 listing in the pair of input listings to be one or more selected  
13 components;  
14 assigning a numbers\_in\_the\_name correlation score based on how many of  
15 the one or more selected components are in common between the  
16 input listings in the pair of input listings;  
17 if the numbers\_in\_the\_name correlation score is greater than a pre-selected  
18 threshold numbers\_in\_the\_name correlation score value then  
19 passing the pair of input listings;  
20 if the numbers\_in\_the\_name correlation score is less than the pre-selected  
21 threshold numbers\_in\_the\_name correlation score value then  
22 failing the pair of input listings;

23 if all the pairs of input listings have passed test, then passing the group of input  
24 listings with respect to the numbers in the name correlation test.

1 51. The computer-readable medium of Claim 47, wherein performing a category  
2 correlation test between input listings of the group of input listings comprises the  
3 steps of:  
4 pairing input listings from the group of input listings such that each input listing is  
5 paired with every other input listing in the group of input listings to form  
6 pairs of input listings;  
7 for each pair of input listings, performing the steps of:  
8 comparing each leaf of a category value in one input listing of the pair of  
9 input listings with a corresponding leaf of the category value in a  
10 remaining input listing in the pair of input listings;  
11 passing the pair of input listings if the corresponding leaves match down to  
12 a pre-selected leaf-level;  
13 failing the pair of input listings if the corresponding leaves do not match  
14 down to the pre-selected leaf-level;  
15 if all the pairs of input listings have passed, then passing the group of input  
16 listings with respect to the category correlation test.

1 52. The computer-readable medium of Claim 47, wherein performing a price  
2 correlation test between input listings of the group of input listings comprises the  
3 steps of:

4 pairing input listings from the group of input listings such that each input listing is  
5 paired with every other input listing in the group of input listings to form  
6 pairs of input listings;  
7 for each pair of input listings, performing the steps of:  
8 comparing a price value in one input listing in the pair of input listings  
9 with a corresponding price value in a remaining input listing in the  
10 pair of input listings;  
11 passing the pair of input listings if the price values match up to a pre-  
12 selected percentage;  
13 failing the pair of input listings if the price values do not match up to the  
14 pre-selected percentage; and  
15 if all the pairs of input listings have passed, then passing the group of input  
16 listings with respect to the price correlation test.

1 53. The computer-readable medium of Claim 47, wherein performing a model  
2 correlation test between input listings of the group of input listings comprises the  
3 steps of:  
4 pairing input listings from the group input listings such that each input listing is  
5 paired with every other input listing in the group of input listings to form  
6 pairs of input listings;  
7 for each pair of input listings, performing the steps of:

8 if each input listing in the pair of input listings has the model value then  
9 comparing the model values in the pair of input listings and  
10 performing the steps of;  
11 passing the pair of input listings if the model values exactly match;  
12 failing the pair of input listings if the model values do not exactly  
13 match;  
14 if one of the input listings in the pair of input listings does not have the  
15 model value then passing the pair of input listings; and  
16 if all the pairs of input listings have passed, then passing the group of input  
17 listings with respect to the model correlation test.

1 54. The computer-readable medium of Claim 47, wherein performing a brand  
2 correlation test between input listings of the group of input listings comprises the  
3 steps of:  
4 pairing input listings from the group of input listings such that each input listing is  
5 paired with every other input listing in the group of input listings to form  
6 pairs of input listings;  
7 for each pair of input listings, performing the steps of:  
8 if each input listing in the pair has a brand value then comparing the brand  
9 values in the pair of input listings and performing the steps of;  
10 passing the pair of input listings if the brand values exactly match;  
11 failing the pair of input listings if the brand values do not exactly  
12 match;

13 if one of the input listings in the pair of input listings does not have the  
14 brand value then passing the pair of input listings; and  
15 if all the pairs of input listings have passed, then passing the group of input  
16 listings with respect to the brand correlation test.

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